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LETTER TRANSMITTING FINAL WASTE ACCUMULATION AREA WORK PLAN NAS FORT
WORTH TX
11/16/1998
AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

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NAVAL AIR STATION
FORT WORTH JRB
CARSWELL FIELD
TEXAS

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 596



596 1 *NAS Correspondence*
DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE TEXAS
File:
P.W. 17A-80-10 596

16 November, 1998

MEMORANDUM FOR RAY RISNER (TNRCC)

FROM: HQ AFCEE/ERD
3207 North Road
Brooks AFB, TX 78235

SUBJECT: Naval Air Station Joint Reserve Base
Formerly Carswell AFB
TNRCC Solid Waste Registration No. 65004
EPA ID No. TX0571924042
Final Waste Accumulation Area Work Plan

Dear Mr. Risner,

One copy of the Final Waste Accumulation Area Work Plan is attached for your files per the TNRCC RCRA permit No. 65004 for NAS Fort Worth JRB. The Air Force has created this work plan to direct the RFI for several waste accumulation areas identified in the permit. Responses to Mr. Mark Weegar's comments on the draft plans are provided as an attachment to this letter. A copy of the plan is also being sent to EPA Region 6.

Should you have any questions regarding this letter, please contact me at (210) 536-5290.

Sincerely,

Joseph R. Dunkle
Remedial Program Manager
NAS Ft. Worth JRB

Atch
Responses to Draft Work Plan Comments



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cc:

EPA Region VI
Mr. Gary W. Miller
1445 Ross Avenue, Suite 1200
Dallas TX 75202-2733

HQ AFCEE/ERD
Mr. Mike Dodyk
P.O. Box 27008
Fort Worth TX 76127-0008
2 copies (AR and working file)

Mr. Wayne McKenzie
Environmental Director
Environmental Department, N92
Bldg 1501
NAS JRB Fort Worth
Fort Worth, TX 76127-6200

Mr. Alvin Brown
AFBCA/ROL Bergstrom AFB
3711 Outlaw Country Drive
Austin, TX 78719-2557

**RESPONSES TO COMMENTS:
DRAFT RCRA FACILITY INVESTIGATION OF
WASTE ACCUMULATION AREAS
NAS FORT WORTH JRB, TEXAS**

Responses to Cathy Remmert's Comments

Comment 1 *TNRCC letter dated March 2, 1995 lists in the Attachment, Waste Accumulation Areas ("WAAs") or SWMU Nos. 13 and 59 (also listed in TNRCC letter dated April 22, 1994) as needing RFIs. They were not included. Please include them in the investigation considering the concerns below, or provide appropriate explanation in the report.*

Response **SWMU No. 13 and 59 will not be included in this RFI. Recommendations for closure of SWMU No. 13, the Visual Information Center Work Station Waste Accumulation Areas, will be provided under separate cover. SWMU No. 59, the Building 8503 Weapons Storage Area Waste Accumulation Area, is being addressed under the USAF Base Realignment and Closure (BRAC) program.**

Comment 2 *Borings should always be completed at the location most likely to find a release. This typically is within the unit and/or at an area that has been identified as having evidence of a release. If the initial boring is also going to be completed as a monitoring well, consideration should be given to locating the boring/well immediately down gradient of the unit being investigated. Many of the proposed locations for the initial boring/well do not appear to meet these concerns. These are specified below.*

Response **Some of the proposed monitoring well locations have been revised to ensure they intercept the groundwater downgradient of the sites.**

Comment 3 *Provision VIII. A. 2. b. (1) requires that the uppermost aquifer be characterized (using several criteria). It also states that soil cores must be taken continuously from the surface to a depth of 20 feet and then at 5 foot intervals thereafter until groundwater is reached. Please note that this is a minimum. If the uppermost aquifer is to be characterized, the borings (or at least one of them) must be completed to the base of the aquifer with a soil core extracted for hydrogeologic characterization. AFCEE's proposal for the initial boring, to the base of the aquifer is correct; however, other areas of the text say to the top of the aquifer.*

Response The Work Plan has been revised to state that all soil borings at each of the subject sites will be sampled every five feet to the top of the water table. Borings which will be completed as monitoring wells will be further sampled every five feet for hydrogeologic characterization until bedrock is encountered.

Comment 4 *The Work Plan text states that the Phase II borings will be completed "as necessary". Conducting the RFI in phases when the permit limits the entire RFI to 12 months does not appear to be expeditious. Please note that one boring typically will not satisfy the permit requirements or guidance for characterizing a SWMU toward determining a release, unless the unit is extremely small and that boring has a high probability of being placed in the appropriate location. Typically those locations are "in" the unit, if possible, or directly adjacent to it. Also note that the proposed Phase II borings do not meet the permit requirement to sample every 5 foot interval. The TNRCC does however believe there is appropriate reason to consider the Phase II borings to a depth less than the bottom or even the top of the groundwater. These units are typically small. One boring may satisfy the intent of the permit to characterize the aquifer. However, for release determination coverage, the proposed "Phase II" borings should be completed with the Phase I borings. These may be "shallow" borings, but should be completed to at least 7 feet (sampled at 0-2 foot and 5-7 foot intervals) to ensure an adequate investigation for release determination. Based on the evidence of contamination in the initial boring or visual or OVA evidence in the shallow borings, the shallow borings may have to be deeper. If the extent is not adequately determined, additional and deeper borings may be required.*

Response The Work Plan has been revised to combine the Phase I and Phase II sampling events into one phase in an effort to expedite the sampling process. All soil borings will be drilled, at a minimum, from the ground surface to the top of the water table. Soil samples will be collected every 5 feet from all soil borings to ensure an adequate investigation for release determination. At sites where downgradient monitoring wells are not present, one downgradient soil boring will be completed to bedrock in order to characterize the aquifer as per permit requirements. These soil borings will be completed as monitoring wells. Data will be collected from the existing records of previously installed monitoring wells and presented for aquifer characterization for sites where existing monitoring wells will be sampled.

Comment 5 *Provision VIII. A 2. b. (1) also requires that all Appendix VIII (Appendix IX) constituents be analyzed unless a shorter list can be justified. Based on*

what was presented for each SWMU, such justification was not adequately provided. The general wastes and waste categories for each unit were given; however, a specific list of constituents for each unit including the test method proposed, was not given. Please investigate for the required constituents and provide such list in the report. The method with the lowest achievable Practical Quantitation Limit ("PQL") should be used, and the value for that should be presented in the text and on the summary table lab sheets. Also, please specify whether the detection limit is the method detection limit ("MDL") or PQL.

Response As a specific list of constituents for each unit is not available, the Work Plan has been revised to state that all soil and groundwater samples collected during the investigation will be analyzed for all of the constituents listed in the 40 CFR Part 264 Appendix IX analyte list. The method with the lowest achievable PQL will be used in the analysis, and that value will be included in the RFI along with whether the detection limit is the MDL or PQL.

Comment 6 *Please note that if a SWMU managed a waste, and that if released, could become a Dense Non-Aqueous Phase Liquid ("DNAPL"), monitor well screens installed at the top of the aquifer would not be adequate. Also, since the issuance of your permit, which allows a maximum screen length of 20 feet, the EPA and TNRCC are now requiring a maximum screen length of 10 feet for justified situations. This new requirement will be in your Compliance Plan. The TNRCC urges AFCEE to implement this policy for all RFIs.*

Response Every effort will be made to construct the monitoring wells proposed in the Work Plan with a maximum screen length of 10 feet.

Comment 7 *AFCEE proposed in the Work Plan that this investigation be approved using the Base-wide Background Study Report by Jacobs, 1998. This document was reviewed by the TNRCC and the EPA and was approved by the TNRCC by letter dated January 20, 1998. Please however note EPA's concerns on outliers. Also, the TNRCC reminds AFCEE that the background sampling and statistical methods and values for sediment have yet to be approved.*

Response EPA's concerns regarding outliers will be considered during the preparation of the RFI. Sample results collected during the investigation will be compared to background values established by Jacobs for surface soil, subsurface soil, and groundwater. Jacobs' background values for sediment, which have yet to be approved by the TNRCC, do not apply to the preparation of this RFI.

Comment 8 *The Work Plan text repeatedly refers to comparing the results to background or PQLs and RRS 2 levels, and determining extent if samples identify contamination above the Risk Reduction Standards (RRS). Use of the RRS for the purposes of determining a release and the extent is not appropriate. The appropriate levels will be the background or the PQLs, which may be referred to as RRS 1.*

Response **Sampling results presented in the RFI will be compared to background (as described in the response to Comment No. 7) or PQLs (RRS 1).**

Comment 9 *Please note that all previous comments made by the TNRCC are appropriate [(i.e., TNRCC letter dated December 11, 1997 concerning the RFI for the Landfills - specifically the comments concerning the applicable or relevant and appropriate requirements ("ARARs"); the Risk Assessment or ("BLRA"); the Corrective Measures Study ("CMS") and Implementation ("CMI"); and the constituents of potential concern ("COPCs)].*

Response **The Air Force will ensure that all ARARs are evaluated when interpreting the data collected during this RFI. The results of the sampling proposed in this Work Plan will be used as a basis for determining future actions at the sites including, but not limited to, Risk Assessment, Corrective Measures Study, and Corrective Measures Implementation.**

Comment 10 *Also, the TNRCC has implemented guidance for the review of the investigation and the BLRA in accordance with the TNRCC Implementation of the Existing Risk Reduction Rules memorandum dated July 23, 1998. The "consistency" memorandum and additional implementation information can be downloaded from the TNRCC home page at: <http://home.tnrcc.state.tx.us/waste/index.html>.*

Response **TNRCC guidance documents will be considered in preparing the RFI and the BLRA, if required.**

Comment 11 *Section 3.4, bullet two, states that one boring will be installed using direct push technology ("DPT") at each unit and soil samples collected to determine if a release has occurred. At certain locations (which is vague) borings will be continued to bedrock and completed as groundwater monitor wells using hollow stem auger ("HSA") methods. Yet in Section 3.3 of the Field Sampling plan, it states that that "one boring" would use the HSA method for each unit. Several areas of the Work Plan appear to conflict. The HSA*

should be used for the deep boring and the DPT may be used for the shallow boring.

Response The document will be checked to ensure that reference to DPT and HSA drilling techniques are consistent.

Comment 12 *Section 3.5 states that if the shed is in good condition, then samples will not be taken from within that shed. That would seem to be logical if and only if waste was always managed in that shed, or only where that shed is located. If waste was historically handled in the SWMU area, but not only in the exact same shed or WAA location, and later a shed was built over part of the area, then that logic may not be applicable. In such a case, a boring(s) should be placed as close to the shed as possible, and/or wherever wastes were managed historically.*

Response The text has been revised to clarify that intrusive activities will not take place within a storage shed if the shed's integrity appears to be intact. At such sites, the proposed soil borings have been placed as close to the sheds as possible in cases where the sheds were built over the former SWMUs. Borings have also been placed wherever wastes were reportedly stored.

If the structural integrity of the shed appears to be in question, or if there is evidence of release from the shed's interior, then intrusive activities may occur within the shed. In addition, the interior walls and floors of a storage shed in question may be rinsed and the rinse water sampled if evidence of release to the environment is found.

Comment 13 *Section 3.5.1 SWMU 5 discusses the results of several wells previously completed and sampled, and how they are related to the removal of several USTs from near building 1628. Soil and groundwater contamination is reported in monitor well LSA1628-2 which appears to be down gradient from SWMU 5. The results from this well will be considered with the results from this investigation as to whether or not the detections in the soil and groundwater are only associated with the USTs. Please provide these results in the report. The initial boring may be placed in an appropriate location; however, if a monitoring well is to be completed for this SWMU, it should be located down gradient.*

Response The existing wells, and one additional well to be installed, will be sampled for the list of Appendix IX constituents to determine if a release from this unit has occurred (Figure 3.1).

- Comment 14** *Section 3.5.2 SWMU 11 proposes two initial soil borings, both advanced to the top of the water table, with one to be completed as a monitor well, and does not propose Phase II borings. Neither of the proposed wells are down gradient of the SWMU. The TNRCC does not know if they are located where there is evidence of a release. Based on the history of where the waste was managed, two additional (shallow) borings may need to be completed. The boring/well completed to the “bottom” of the aquifer should be near building 1617.*
- Response** Two soil borings, one of which will be completed as a monitoring well, will be advanced at SWMU 11 in order to adequately determine whether a release occurred from the site (Figure 3.2). The Work Plan has been revised to relocate the proposed monitoring well next to Building 1617 as requested. As this site consists of a small shed (10ft by 10ft), additional soil borings are not justified.
- Comment 15** *Section 3.5.3 SWMU 12 references photos for this unit; however, Figure 1.6 does not appear to be included. The TNRCC agrees with placing the initial boring at the stain location, but for purposes of a monitor well, reminds AFCEE that the location is not down gradient. Although the proposed locations appear to be sufficient, the TNRCC understands that there is evidence of a release, there were several cracks observed in the concrete and asphalt, and there was no secondary containment. Additional borings may be required.*
- Response** The locations of the three previously proposed soil borings at SWMU 12 have remained the same. However, the Work Plan has been revised to complete all three soil borings to the top of the water table. In addition, a fourth soil boring, which will be completed as a monitoring well, has been proposed in a downgradient location. These proposed soil boring and monitoring well locations are illustrated in Figure 3.2.
- Comment 16** *Section 3.5.4 SWMU 16 states that this unit managed hazardous waste, on asphalt, without secondary containment. Stains were noted on the asphalt, at the corner of the units, and extending about 20 feet to a shallow storm drain. The initial boring, which was proposed to be completed as a monitor well should be moved far enough to the northeast to maximize the chance to find groundwater contamination. This unit should include a minimum of 4 borings, located where the wastes have been placed in the past. Please note that there are no proposed borings on the northeast and northwest sides of the SWMU. The TNRCC questions placing one boring next to the WAA and three next to the concrete ramps.*

Response The Work Plan has been revised to complete four soil borings, one on each side of SWMU 16. In addition, a fifth soil boring, which will be completed as a monitoring well, has been proposed in a downgradient location as requested. These soil boring and monitoring well locations are illustrated in Figure 3.3.

Comment 17 *Section 3.5.5 SWMU 31 describes an outside uncovered unit without secondary containment. It appears this unit can be traced back to 1955, yet there was no reported evidence of release. Therefore, placement of the initial boring will be somewhat subjective. The proposed initial boring/monitor well is located to the south of the unit. The groundwater is portrayed as moving to the east. The eastern proposed Phase II boring location seems to be a better initial location. Also, the location of all of the borings appear to be too far from the unit to determine if a release has occurred.*

Response The Work Plan has been revised to complete two soil borings, on opposite corners of SWMU 31. Both soil borings have been moved closer to the SWMU, and the soil boring to be completed as a monitoring well, has been moved to a downgradient location as requested. These soil boring and monitoring well locations are illustrated in Figure 3.4.

Comment 18 *Section 3.5.6 SWMU 32 describes an outside uncovered unit without secondary containment, with evidence of release. This unit has reportedly been operating since the early 1940's. The initial boring appears to be too far to the north of the unit to be completed as the only monitor well. There may be a good reason for the location of the northern most proposed Phase II boring; however, the TNRCC believes it should be located more closely to the unit. It appears that this unit warrants approximately three borings next to or in it.*

Response The Work Plan has been revised to complete three soil borings, one outside of WAA 1415, and two within the former SWMU as requested. In addition, a fourth soil boring, which will be completed as a monitoring well, has been proposed in a downgradient location. These soil boring and monitoring well locations are illustrated in Figure 3.5.

Comment 19 *Section 3.5.7 SWMU 33 describes an outside uncovered unit with heavy stains on the base of the unit. All borings should be completed in or as close to the unit as possible.*

Response The Work Plan has been revised to move the locations of the proposed soil borings and monitoring well onto the gravel area directly adjacent to SWMU 33 (Figure 3.6).

Comment 20 *Section 3.5.8 SWMU 34 describes an outside uncovered unit without secondary containment, with stains at the edge of the unit. Also noted was that runoff traveled across bare ground. The TNRCC understands that previous investigations have been conducted near this unit, but were not complete. Never-the-less, Table 3.9 recorded soil contamination. The TNRCC also notes that information was not reported for nearby monitor wells MW-36 and 37. Please include the soil and groundwater results in the report. The proposed initial boring/monitor well appears to be located on strike or lateral to the groundwater flow. It should be located between SWMU 34 and 35, near the southeast corner of SWMU 34. Phase II borings were not proposed; however, based on the results of the previous investigation and the constituent specific list for this unit, additional shallow borings may be warranted. At a minimum, a shallow boring should be placed where the runoff traveled across bare ground.*

Response The Work Plan has been revised to collect groundwater samples from monitoring wells MW-36 and MW-37 (Figure 3.7) as requested. No additional monitoring wells are proposed for this SWMU.

The Draft Work Plan described SWMU 34 as a paved concrete area that slopes away from Building 1194 to the parking lot. The area was surrounded by discontinuous concrete curbing. Surface runoff would have traveled from the unit across the parking lot, onto bare ground, approximately 75 feet from the SWMU. The concrete was noted to be in good condition at SWMU 34. In 1989, stains were noted at the edge of the unit and in the grass at the edge of the parking lot. One soil boring will be completed in the center of SWMU 34, and another soil boring will be completed in the grass at the base of the runoff path, in order to characterize any potential contamination from this site. The locations of these soil borings are illustrated in Figure 3.7.

Comment 21 *Section 3.5.9 SWMU 36 describes an outside uncovered unit without secondary containment. Drums were placed directly on and stains were found on the ground and asphalt. Note that the photo on Figure 1.12 appears to show that the unit is larger than the illustration of the unit in Figure 3.8. Also, runoff traveled across unpaved ground into an unlined culvert. Due to both of these issues, additional borings appear to be appropriate at the unit, the runoff area, and the culvert. Also, it may be*

more advantageous to place the initial boring/monitor well as the only boring on the east side, unless the unit is much larger than illustrated. A monitor well location as proposed would barely be on the down gradient edge of this unit.

Response The estimated size of SWMU 36 has been increased to an approximate 30 ft by 25 ft area in order to be consistent with the photos shown in Figure 1.12 of the Work Plan. In addition, a total of four soil borings have been proposed for SWMU 36 (Figure 3.8). Two of the proposed soil borings will be advanced within the former SWMU and two of the proposed soil borings will be advanced where runoff from the SWMU reached the culvert. The soil boring on the east side of SWMU 36 will be converted into a monitoring well as requested in order to characterize the groundwater at the site.

Comment 22 *Section 3.5.10 SWMU 39 describes previous soil and groundwater samples in which 8 constituents in soil and 7 in groundwater exceeded background or PQL and the RRS 2 levels. AFCEE then states that background levels were not substantially exceeded and that data shows that a release has not occurred from this unit. Actually, according to Tables 3.10 thru 3.12, there were 47 exceedances of background or PQL, with 14 also exceeding RRS 2. There certainly appears to be soil contamination involving multiple SVOCs and two metal constituents in boring 02 at the 0-2 foot interval, as well as shallow and subsurface VOC exceedances in all three borings. Also noted was that well WITCTA005 is just down gradient of this unit and is reported to show 6 exceedances of background or PQL and 4 of those also exceed RRS 2. Those numbers warrant further attention. Since a constituent specific list for this unit was not provided, the TNRCC cannot agree or disagree with AFCEE's conclusion at this time. The results should be resubmitted with a unit specific constituent list in the report, and additional samples in or next to the unit are needed to verify that these contaminants are not from this unit and to better defend the position of no further action.*

Response The attached Figure 3.9 illustrates the location of the former SWMU 39 between two oil/water separators identified as SWMU 40. Section 3.5.10.1 of the Work Plan describes the previous investigation which was conducted in order to assess potential contamination from the oil/water separators at SWMU 40. During the course of this investigation, three soil borings, SB164301, SB164302, and SB164303 were advanced and sampled for VOCs, SVOCs, pesticides/PCBs, metals, and mercury. Although 7 constituents exceeded both background or PQL and the RRS 2 levels in this investigation, all of the 7 exceedances above RRS 2 were found in two borings, SB164302 and SB164303, which were considered to

be associated with oil/water separators at SWMU 40, not with SWMU 39 (Figure 3.9). No constituents exceeded RRS 2 levels in SB164301, which is located east of both SWMUs 39 and 40. Several constituents were found in SB164301 that were slightly above background levels or PQLs.

In order to ensure a release from SWMU 39 has not occurred, one additional boring will be placed within the unit and monitoring well WITCTA005 will be resampled for the full list of Appendix IX compounds.

Comment 23 *Section 3.5.11 SWMU 42 proposals are not quite adequate. The initial boring/monitor well should be located in/at the eastern-most corner, based on the groundwater flow direction, and another shallow boring should be placed in/at the northern-most corner for proper coverage.*

Response The Work Plan has been revised to complete four soil borings, one placed in the northern-most corner as requested, at SWMU 42. In addition, the soil boring that will be converted into a monitoring well has been placed along the southeast edge of the SWMU, as requested. These soil boring and monitoring well locations are illustrated in Figure 3.10.

Comment 24 *Section 3.5.12 SWMU 51 describes Clusters 1 & 2 Areas as managing waste on the ground. The Cluster 1 initial boring/monitor well does not appear to be proposed in an optimum location, and additional shallow borings should be completed. The Cluster 2 initial boring/monitor well should be located at the southern-most proposed boring location, and due to the larger size of this area, a few more shallow borings may be needed (they should be where the waste was managed - possibly in the light green shaded area). The Cluster 3 Area was previously investigated with borings 01-03; however, Table 3.14 only shows results from surface samples. If there were deeper results, please provide them. This area probably needs at least two borings with the boring being converted into a monitor well placed in an optimum down gradient location.*

Response The Work Plan has been revised to complete three soil borings, one of which will be converted into a monitoring well, within Cluster 1 at SWMU 51. The proposed monitoring well has been moved to a location downgradient of the SWMU as requested. Soil borings and monitoring well locations are presented in Figure 3.11.

The monitoring well proposed at SWMU 51—Cluster 2 has been moved to a downgradient location as requested. In addition to this monitoring

well, four soil borings will be completed to the top of the water table in order to characterize all four sides of this storage area. Soil borings and monitoring well locations are presented in Figure 3.11.

Sample results from the soil borings at SWMU 51—Cluster 3 did not show contamination in the subsurface. These results will be provided in the RFI as requested. The Work Plan has been revised to include two soil borings in the Cluster 3 area (Figure 3.11) which will be drilled to the top of the water table. In addition, the proposed monitoring well at AOC 15, which has been moved to a location downgradient of both SWMU 51—Cluster 3 and AOC 15, will serve as a monitoring well for both of these sites.

Comment 25 *Section 3.5.13 SWMU 61 is described to be in poor condition. The initial boring/monitor well should be located near the eastern edge of the elbow in the unit. Based on where the wastes were managed and stains, there may need to be more than two shallow borings.*

Response The Work Plan has been revised to include the installation of 5 soil borings, one of which will be converted into a monitoring well, at SWMU 61. The monitoring well location has been relocated to the eastern corner of the SWMU as requested. Soil boring and monitoring well locations are illustrated in Figure 3.12.

Comment 26 *Section 3.5.14 AOC 6 describes a large area with contamination found in a reported cross-gradient well. The TNRCC does not concur. Of the twelve illustrated figures in Section 3 of the Work Plan; Figure 3.12 is the only one on which a groundwater flow direction arrow is not found. However, based on the other eleven figures which show the direction to be easterly, it would appear that the location of monitor well ST14-W22 is easily downgradient from the majority of this unit. Please include the sample results from this well in the report for this unit. Both the borings/monitor wells should be located more toward the southeasterly edge of the unit. Due to the size of the unit, several shallow borings should be completed. Please place the borings at locations where stains or cracks exits, if possible.*

Response Figure 3.12 has been revised to include a groundwater flow direction arrow which points in a southeasterly direction. In addition, the Work Plan has been revised to include the installation of 4 soil borings located within AOC 6, as illustrated in Figure 3.12. The locations of these borings are subject to change based on visual observation of stains/cracks within the site. Groundwater samples will be collected for analysis from

monitoring well ST14-W22 as requested. No additional monitoring wells are proposed for installation at this AOC.

Comment 27 *Section 3.5.15 AOC 15 describes a small shed. The initial boring/monitor well should be located as close to and downgradient of the unit as possible. This well may serve this unit and SWMU 51, Cluster 3 if properly placed.*

Response **The proposed monitoring well at AOC 15 (Figure 3.11) has been moved to a location downgradient of both SWMU 51—Cluster 3, and AOC 15. This monitoring well will serve to characterize both areas as proposed in the response to Comment No. 24.**

Comment 28 *Section 3.5.17 Aquifer Testing references Radian (1991) material as being sufficient for aquifer information. Please note that the permit asks for a hydrogeological assessment at this point, and only “plans” to investigate the groundwater if the results of the soil boring program shows evidence that the groundwater may have been contaminated. Please further identify the Radian report as to which project and authority under which it was conducted.*

Response **Aquifer testing data has recently become available in the CH2M Hill RFI Report for AOC-2. This data will be used to characterize the hydrogeological properties at the subject sites.**

Comment 29 *Sections 4.0 RISK ASSESSMENT and 5.0 CORRECTIVE MEASURES STUDY - see comments under general concerns, item 9, of this letter. Both of these are premature at this point. These would be better served in the Final RFI Report.*

Response **The Risk Assessment will be included in the Final RFI Report. The Corrective Measures Study will be a separate effort based on the results presented in the Final RFI Report.**

Comment 30 *Section 6.0 DATA ASSESSMENT, RECORDS, AND REPORTING REQUIREMENTS - for all the reported laboratory results, please identify whether the detection limits are the MDL or PQL; the values for the detection limit; the values for the PQL, if different; and identify which are artificially high and why (i.e., dilution, matrix interference problems).*

Response **The requested information will be presented in the Final RFI Report.**

Comment 31 *Section 6.3 REPORTING REQUIREMENTS - of the three recommended future courses of action proposed in the final RFI Report, the second (more investigation) would seem to mean that AFCEE is not through with the investigation and should therefore not be submitting a Final RFI Report.*

Response **A Final RFI Report will be submitted once each of the subject sites have been fully characterized.**

Comment 32 *Section 6.3.4 Decision Documents refers to the Final RFI Report as the no further action document if the results of the RFI confirm a RRS 1 or RRS 2. Please note that under a RRS 2, deed certification is still required (as the CMI), as is public notice of the remedy decision.*

Response **Section 6.3.4 of the Work Plan has been modified to include that a deed certification (as the CMI) and public notice of the remedy decision are still required under a RRS 2 closure.**

Comment 33 *Figure 7.1 Project Schedule - please note that Provision VIII.A.4. allows a maximum of 12 months for conducting the RFI activities. In addition, Provision VIII. D. requires submittal of the RFI Report within 60 days after the completion of the RFI. Please conduct the investigation and submit the report within those time frames.*

Response **The Air Force will make every attempt to expedite the RFI process.**

FIELD SAMPLING PLAN

Comment 1 *Section 2.2 does not refer to a Phase I and Phase II Program It correctly refers to the initial boring being completed to bedrock (the bottom of the aquifer), and all borings being sampled at 5 foot intervals. Please ensure that the investigation conforms and is documented in the report.*

Response **The Field Sampling Plan has been revised to be consistent with the sampling as described in the Work Plan.**

Comment 2 *Section 3.2 SAMPLE ANALYSIS SUMMARY - the permit requires a "list" of constituents for each unit, not a summary of chemical groups or classes with analytical methods, or an account of wastes. Please provide such in the report.*

Response **As a specific list of constituents for each unit is not available. All samples proposed in these Plans will be analyzed for the full list of constituents presented in 40 CFR Part 264 Appendix IX.**

Comment 3 *Section 3.3 FIELD ACTIVITIES - each unit's description of the investigation is set out in Phase I and Phase II, which only collects surface samples (0-2 foot). Again, this does not meet the permit requirements. Please investigate as modified above. There are no "plans" for a groundwater investigation, based on the results of the soil boring program; however, there are sections in the Work Plan that discuss monitor well completion and groundwater sampling. The use of the OVA is not discussed. Please address these issues in the report.*

Response **The Field Sampling Plan has been revised to complete the proposed sampling activities in one Phase, as per the response to Comment No. 1. The Field Sampling Plan has been revised to be consistent with the sampling as described in the Work Plan, and use of the OVA has been added to the text.**

Comment 4 *Section 5.4.4 Well Screen Requirements -see comments under general concerns, item 6, of this letter.*

Response **Every effort will be made to install monitoring wells with a maximum screen length of 10 feet.**

Comment 5 *Section 5.0 MONITORING WELL DEVELOPMENT - for this and all other sections, please see the "Field Sampling Plan" comments in TNRCC letter dated December 11, 1997.*

Response **In finalizing the RFI Field Sampling Plan for Waste Accumulation Areas, we will review the comments in the TNRCC letter dated December 11, 1997 and ensure that the applicable comments by the EPA and the TNRCC are met.**

Comment 6 *Section 7.0 FIELD MEASUREMENTS - the intention of the requirement to use the OVA is not to test the head space of samples that are being collected for lab analysis, but to test the core to see if there are high enough readings to justify additional sampling.*

Response **The text in Section 7.0 has been modified to include the core test with the OVA as requested.**

HEALTH AND SAFETY PLAN

Comment 1 *Section 3.0 RCRA FACILITY INVESTIGATION ACTIVITIES - the Phase II borings should be completed with the Phase I borings, instead of "as necessary".*

Response **Section 3.0 has been modified to incorporate all proposed sampling activities into one Phase.**

Comment 2 *Section 4.1 Chemical Hazards - the constituents in Table 4.1 should be all the constituents tested for this investigation, inclusive of each SWMU's constituent specific list.*

Response **Table 4.1 has been revised to include all of the contaminants of concern at each of the sites.**

Comment 3 *Section 8.12 Disposal of Decontamination and Other Wastes - please note that all wastes should be appropriately classified for handling, transporting, and disposal.*

Response **The text in Section 8.12 has been modified to include that all wastes will be appropriately classified for handling, transporting, and disposal as requested.**

APPENDIX B

Comment 1 *Please see the comments under the general concerns, item 9, of this letter concerning ARARs.*

Response **The Air Force will ensure that all ARARs are evaluated when interpreting the data collected during this RFI.**

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